

AMENDMENT UNDER 37 C.F.R. § 1.116
U.S. Patent Application No. 09/964,410

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) An antenna, comprising:

a converger, including a conductor which converges a magnetic flux of an electromagnetic wave, the converger having a through hole, into which the magnetic flux is converged, at a center portion of the conductor, and a cutout extending from a part of the through hole to an outer periphery of the conductor; and

a converter, which converts the converged magnetic flux into voltage,

wherein the magnetic flux is converged by an eddy current flowing on the conductor so as to have a path length which is at least one wavelength of the electromagnetic wave, and the through hole has a size which is sufficiently smaller than the wavelength of the electromagnetic wave.

2. (Canceled)

3. (Previously Presented) The antenna as set forth in claim 1, wherein the converger includes a resistance reducer provided on at least a peripheral portion of the conductor to reduce resistance against current flowing in the conductor.

AMENDMENT UNDER 37 C.F.R. § 1.116
U.S. Patent Application No. 09/964,410

4. (Previously Presented) The antenna as set forth in claim 1, wherein the conductor comprises a plurality of sub-plates.

5. (Previously Presented) The antenna as set forth in claim 1, wherein the converter comprises a coil.

6. (Original) The antenna as set forth in claim 1, wherein the converter has a size which is sufficiently smaller than a wavelength of the electromagnetic wave.

7. (Previously Presented) The antenna as set forth in claim 5, wherein a winding number of the coil is at least two.

8. (Original) The antenna as set forth in claim 1, wherein the converter is formed on a semiconductor integrated circuit.

9. (Previously Presented) An antenna for communicating an electromagnetic wave, comprising:

a first converger, which converges the electromagnetic wave;

a second converger facing the first converger and including

a conductor plate having a through hole, into which a magnetic flux of the converged electromagnetic wave is converged, formed at a center portion thereof so as to have a size which is sufficiently smaller than a wavelength of the electromagnetic wave, and

AMENDMENT UNDER 37 C.F.R. § 1.116
U.S. Patent Application No. 09/964,410

a cutout extending from a part of the through hole to an outer periphery of the conductor plate; and

a converter, which faces the through hole of the conductor plate to convert the converged magnetic flux into voltage.

10. (Original) The antenna as set forth in claim 9, wherein the second converger includes an upright conductor formed along an outer peripheral portion of the conductor plate, the through hole and the cutout, so as to extend in an orthogonal direction of a direction in which the conductor plate extends.

11. (Original) The antenna as set forth in claim 9, wherein the first converger includes a conductor plate having a slot formed at a center portion thereof and an upright conductor formed along an outer periphery of the conductor plate so as to extend in an orthogonal direction of a direction in which the conductor plate extends.

12. (Original) The antenna as set forth in claim 11, wherein each of the slot of the first converger and the outer periphery of the conductor plate of the second converger has a linear portion whose dimension is substantially a half of a wavelength of the electromagnetic wave.

13. (Previously Presented) The antenna as set forth in claim 9, wherein the converter comprises a coil.

AMENDMENT UNDER 37 C.F.R. § 1.116
U.S. Patent Application No. 09/964,410

14. (Currently Amended) An antenna, comprising:

a plurality of antenna elements, serially interconnected with each other, each antenna element including:

a converger, including a conductor which converges a magnetic flux of an electromagnetic wave; and

a converter, which converts the converged magnetic flux into voltage, the converter being operable independently from a ground potential,

wherein the magnetic flux is converged by an eddy current flowing on the conductor so as to have a path length which is at least one wavelength of the electromagnetic wave, and the conductor is formed with a through hole having a size which is sufficiently smaller than the wavelength of the electromagnetic wave.

15. (Original) The antenna as set forth in claim 14, wherein the antenna elements are interconnected such that voltages outputted from the respective converters are added.

16. (Previously Presented) The antenna as set forth in claim 15, wherein a phase delay between voltages outputted from the respective converters is eliminated on the way from the converters to a point at which the output voltages are added.

Claims 17-20. (Canceled)